

CLAIMS

[1] A decoder of binary arithmetic code comprising:

an arithmetic code decoding means for decoding binary arithmetic code in accordance with an input of binary arithmetic code to obtain binary symbols;

5 a buffer for accumulating said binary symbols that have been decoded; and

a reverse binarization means for, when extracting binary symbols from said buffer, extracting binary symbols in accordance with an output of said reverse binarization means, converting to multivalued symbols, 10 and supplying a result as output.

[2] An encoder of binary arithmetic code comprising:

binarization means for converting multivalued symbols to binary symbols in accordance with the input of multivalued symbols;

a buffer for accumulating said binary symbols, and

5 an arithmetic encoding means for, when extracting binary symbols from said buffer, extracting binary symbols in accordance with the output of said arithmetic encoding means and generating binary arithmetic code.

[3] A decoder of arithmetic code comprising:

an arithmetic code decoding means for decoding arithmetic code in accordance with the input of arithmetic code to obtain multivalued symbols;

5 a buffer for accumulating said multivalued symbols; and

a reverse conversion means for, when extracting multivalued symbols from said buffer, extracting multivalued symbols in accordance

with the output of said reverse conversion means, converting to output symbols, and supplying the result as output.

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[4] An encoder of arithmetic code comprising:

conversion means for converting input symbols to multivalued symbols in accordance with the input of input symbols;

a buffer for accumulating said multivalued symbols, and

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an arithmetic encoding means for, when extracting multivalued symbols from said buffer, extracting multivalued symbols in accordance with the output of said arithmetic encoding means and generating arithmetic code.

[5] The encoder of binary arithmetic code according to claim 2, further comprising bit number estimation means for estimating the relation

between the number of binary symbols and the number of code bits from the number of binary symbols that have been extracted by said

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arithmetic encoding means and the number of code bits that have been generated; and for estimating the number of code bits that are generated after arithmetic encoding from the amount of accumulation of said buffer.

[6] The encoder of arithmetic code according to claim 4, further comprising a bit number estimation means for estimating the relation between the number of multivalued symbols and the number of code bits from the number of multivalued symbols that have been extracted by said

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arithmetic encoding means and the number of code bits that have been generated; and for estimating the number of code bits that are generated after arithmetic encoding from the accumulated amount of said buffer.

- [7] A method of decoding binary arithmetic code in a decoder that includes a buffer for accumulating binary symbols that have been decoded; said method comprising:

5 an arithmetic code decoding step of decoding binary arithmetic code in accordance with the input of binary arithmetic code to obtain binary symbols; and

10 a reverse binarization step of, when extracting binary symbols from said buffer, extracting binary symbols in accordance with output of this step, converting to multivalued symbols, and supplying the result as output.

- [8] A method of encoding binary arithmetic code in an encoder that includes a buffer for accumulating converted binary symbols, said method comprising:

5 a binarization step of converting multivalued symbols to binary symbols in accordance with the input of multivalued symbols; and

an arithmetic encoding step of, when extracting binary symbols from said buffer, extracting binary symbols in accordance with output of this step, and generating binary arithmetic code.

- [9] A method of decoding arithmetic code in a decoder that includes a buffer for accumulating decoded multivalued symbols; said method comprising:

5 an arithmetic code decoding step of decoding arithmetic code in accordance with the input of arithmetic code to obtain multivalued symbols; and

a reverse conversion step of, when extracting multivalued symbols from said buffer, extracting multivalued symbols in accordance with the output of this step, converting to output symbols, and supplying the result as output.

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[10] A method of encoding arithmetic code in an encoder that includes a buffer for accumulating converted multivalued symbols; said method comprising:

5 a conversion step of converting input symbols to multivalued symbols in accordance with the input of input symbols; and

an arithmetic encoding step of, when extracting multivalued symbols from said buffer, extracting multivalued symbols in accordance with the output of this step and generating arithmetic code.

[11] The binary arithmetic code encoding method according to claim 8, further comprising a bit number estimation step of estimating the relation between the number of binary symbols and the number of code bits from the number of binary symbols that have been extracted and the number of code bits that have been generated, and of estimating the number of code bits that are generated after arithmetic encoding from the amount of accumulation of said buffer.

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[12] The arithmetic code encoding method according to claim 10, further comprising a bit number estimation step of estimating the relation between the number of multivalued symbols and the number of code bits from the number of multivalued symbols that have been extracted and the number of code bits that have been generated, and of estimating the

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number of code bits that are generated after arithmetic encoding from the amount of accumulation of said buffer.

- [13] A program of a computer having a buffer for accumulating binary symbols that have been decoded, said program causing said computer to function as:

an arithmetic code decoding means for decoding binary arithmetic code in accordance with the input of binary arithmetic code to obtain binary symbols; and

a reverse binarization means for, when extracting binary symbols from said buffer, extracting binary symbols in accordance with the output of said reverse binarization means, converting to multivalued symbols, and supplying the result as output.

- [14] A program of a computer having a buffer for accumulating binary symbol strings that have been converted, said program causing said computer to function as:

a binarization means for converting multivalued symbols to binary symbol strings in accordance with the input of multivalued symbols; and

an arithmetic encoding means for, when extracting binary symbols from said buffer, extracting binary symbols in accordance with the output of said arithmetic encoding means and generating binary arithmetic code.

- [15] A program of a computer having a buffer for accumulating multivalued symbols that have been decoded, said program causing said computer to function as:

an arithmetic code decoding means for decoding in accordance
5 with the input of arithmetic code to obtain multivalued symbols; and

a reverse conversion means for, when extracting multivalued
symbols from said buffer, extracting multivalued symbols in accordance
with the output of said reverse conversion means, converting to output
symbols, and supplying the result as output.

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[16] A program of a computer having a buffer for accumulating multivalued
symbol strings that have been converted; said program causing said
computer to functions as:

a conversion means for converting input symbols to multivalued
5 symbols strings in accordance with the input of input symbols; and

arithmetic encoding means for, when extracting multivalued
symbol strings from said buffer, extracting multivalued symbol strings in
accordance with the output of said arithmetic encoding means and
generating arithmetic code.

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[17] The program according to claim 14 for further causing said computer to
function as a bit number estimation means for estimating the relation
between the number of binary symbols and the number of code bits from
the number of binary symbols that have been extracted by said
5 arithmetic encoding means and the number of code bits that have been
generated, and for estimating the number of code bits that are generated
after arithmetic encoding from the amount of accumulation of said buffer.

- 5 [18] The program according to claim 16 for further causing said computer to function as a bit number estimation means for estimating the relation between the number of multivalued symbols and the number of code bits from the number of multivalued symbols that have been extracted by said arithmetic encoding means and the number of code bits that have been generated, and for estimating the number of code bits that are generated after arithmetic encoding from the amount of accumulation of said buffer.